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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,901	09/12/2003	Paul J. Wyser	KEL 006 P2	7410
34232	7590	10/30/2006	EXAMINER	
MATTHEW R. JENKINS, ESQ. 2310 FAR HILLS BUILDING DAYTON, OH 45419			ALEJANDRO, RAYMOND	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,901

Applicant(s)

WYSER, PAUL J.

Examiner

Raymond Alejandro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 and 13-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/19/06 has been entered.

This document is being submitted responsive to the amendment filed in connection with the above-identified RCE. The applicant has overcome only the objection, and most of the 35 USC 112 rejections. Art rejection has not been satisfactorily overcome yet. Refer to the abovementioned amendment for substance of applicant's rebuttal arguments and remarks. However, the present claims are now non-finally rejected over art as set forth below and for the reasons of record:

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-11 and 13-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the

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claimed invention. The added material which is not supported by the original disclosure is as follows: (claim 1) the recitation “*whereas said at least one wound electrode element is wound around and supported by said at least one pin*”. That is to say, the as-filed disclosure lacks adequate written description to support that “*at least one wound electrode element is wound around said at least one pin*”. Written description states that “*the winding is also held mechanically by the two contact pins*” (See P0038/ Figure 4). In other words, it does support having “*a wound electrode element wound around two (2) contact pins (i.e. pins 25 and 26)*”, but not around only one contact pin. Applicant is required to cancel the new matter in the reply to this Office Action.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claims 17-20 are indefinite as they depend from cancelled claim 16. *For purpose of prosecution, they have been construed as depending from independent claim 1.*

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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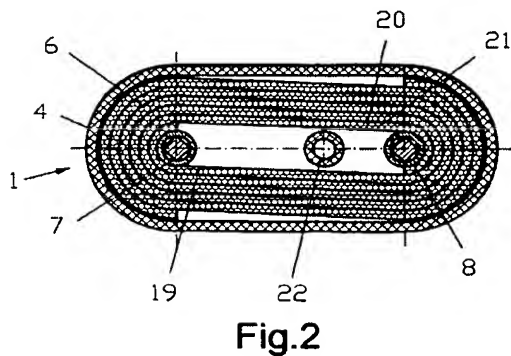
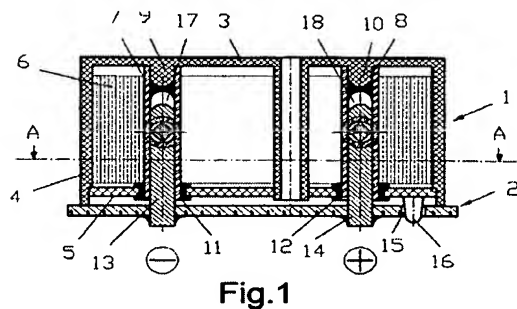
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

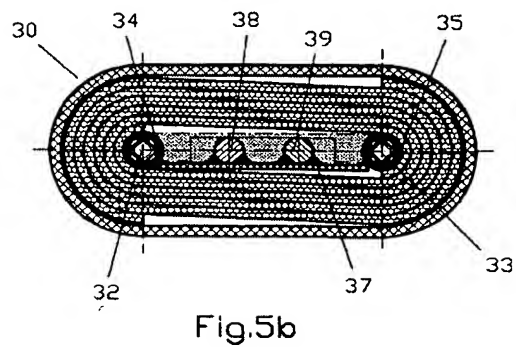
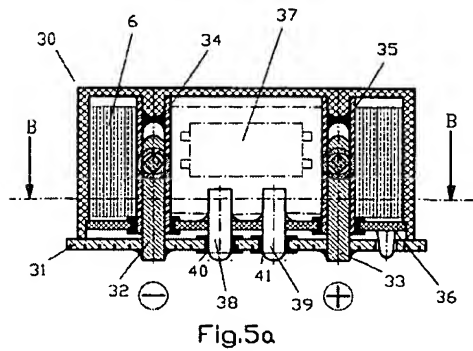
7. (*At least*) Claims 1 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by the EP 1100138 (heretofore 'the EP'138').

As to claim 1:

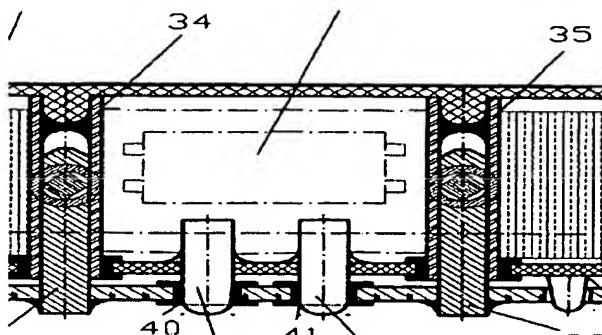
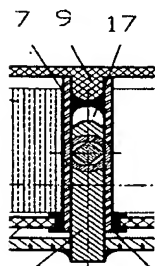
The EP'138 disclose a battery (TITLE) including a housing 3,4,5 and pins 13, 14 or 32, 33 (ABSTRACT). Figure 2 below illustrate the wound electrode assembly 6 being wound around pins 13, 14 (*or pins 7, and 34-35 as interpreted by the examiner, see note below*) (See FIGURE 2 and 5b). Reference numeral 37 serves the metallic supporting strip which contacts and supports the wound electrode assembly 6 and is connected to the pins 13, 14 (*or pins 7, and 34-35 as interpreted by the examiner, see note below*).

Figures 1-2 and 5a-b illustrate the embodiment of the disclosed battery:





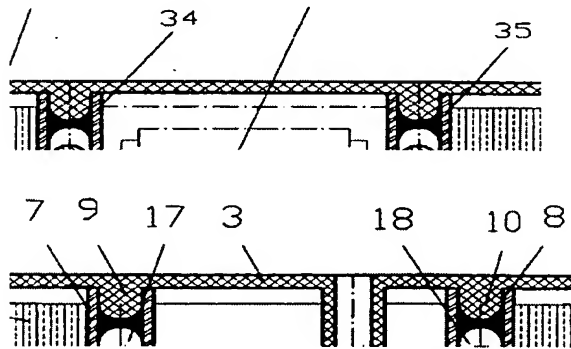
***Note:** in the instant case, reference numeral 7 in Figure 1, or 34-35 in Figure 5a are interpreted or taken to represent the claimed pin, while the disclosed pins 13, 14 are taken to represent the second connection which can be tightened mechanically.*



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As to claim 21:

As shown in at least the enlarged portion of **Figure 5a**, pins 34, 35 (*as interpreted by the examiner*) engage a wall of the battery housing. The same is also true for pin 7 (*as interpreted by the examiner*) in **Figure 1** (enlarged portion thereof).



With respect to the “*one first contact connection fitted to an outer face of the housing*”, absent any other structural description of what is a “*first contact connection*” in the present claims, the examiner contends that reference numeral 12 constitutes the contact connection fitted to an outer face of the housing 5.

Thus, the present claims are anticipated.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various

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claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

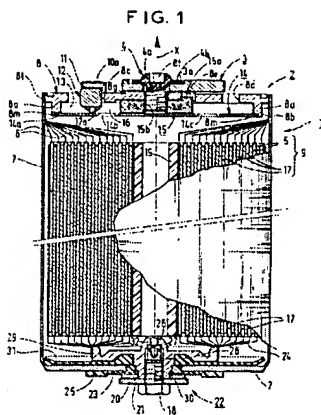
10. Claims 1-11, 13-15 and 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souliac et al 6399237 in view of Applicant's Admitted Prior Art (hereinafter referred to as 'the AAPA').

Concerning claim 1:

Figure 1 of Souliac et al illustrate battery cell 1 comprising a container in the form of a cylindrical can 7; and at least one alternation of positive electrode, negative electrode and separator wound in a spiral form (COL 3, lines 53-63). Souliac et al disclose that the end of the cell incorporate the negative terminal 22; wherein blades 24 are connected to the negative electrode and welded to a connecting part 29 which is in contact with a screw 18 which immobilizes a nut 20, and two washers (COL 4, lines 1-16). Included is also a screwthreaded housing 30 at the center of the connecting part 29 providing access thereto. All that is then required to make the electrical connection to the outside of the cell 1 is to accommodate the screw 18 in the external part of the housing 30 and to collect the current from the screw 18 by any appropriate means (COL 4, lines 1-16). Disclosed is a cell which is compact (COL 1, lines 25-27). Reference numeral 19 is a support (COL 3, lines 60-63) wherein the cell is assembled by winding the alternating electrodes 5, 17 and separator around the support 19 (COL 6, lines 16-23). Blades 24 are welded to the connection part 29 (COL 6, lines 18-21). Connection part 29 is

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welded to the blades 24 which (COL 6, lines 16-22) and blades 24 are connected to the negative electrode (COL 4, lines 5-10). *Thus, connection part 29, serving as applicant's pin as interpreted by the examiner, indirectly provides mechanical support to the wound electrode assembly.*



Additionally, it is disclosed that an electrical connection member 3 external to the cell 1 is fixed to the cover 8 at the end 2, the two parts 8 and 3 being fastened together by clamping means using a nut and a screw 4 external to the cell (COL 4, lines 40-52). The screw has a head 4a and ring inserted into the housing. The cover also includes a screwthreaded opening 8f accommodating part of the screw (COL 4, lines 40-52).

Note: In this instance, it is noted that the two screws (first and second pins) are electrically connected as instantly claimed and they are tightened mechanically.

Concerning claims 2-3, 12 and 17-18:

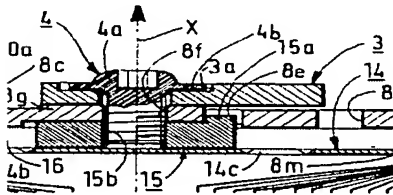
Souliac et al use screws themselves or screw-based connections to connect the battery (COL 4, lines 1-16/COL 4, lines 40-52/ See FIGURE 1).

As for claims 4, 9 and 19:

Furthermore, the cell of Souliac et al also comprises a nut 15 which also provides electrical connection and mechanical stability to the screw on the positive electrode side (See

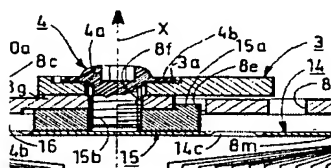
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FIGURE 1). Souliac et al disclose that such a nut is a nickel-plated steel element (COL 4, lines 40-45). *If feature 15 represents the contact board, thus, as seen above in the enlarged portion of Figure 1, feature 15 is arranged in a depression in the housing.*



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another section on the left (See Enlarged Portion of Figure 1 below). *Also, since at least electrical connection member 3 provides electrical connection therebetween, it can be reasonably argued that it is an electronic component. Unless the present claims provide further structural description of the specific contact board and/or contact connections, it is contended that the cited members meet the claimed structural requirement.*



Souliac et al disclose a sealed storage cell according to the aforementioned aspects. However, the preceding prior art reference fails to expressly disclose the specific metallic supporting strip welded to at least one pin.

The AAPA in paragraphs 0029-0030 and Figures 1A- B discloses and illustrates a contact bushing from the anode to an outer contact surface; the housing cover 13 conductively connected to the positive pole; a contact rivet being arranged in an opening in the housing cover; wherein the rivet head on the outside of the housing and the bent-back rivet feet on the inside of the housing hold the rivet in an interlocking manner. On the inside of the housing, the contact rivet is connected on the rivet feet by means of a contact weld 15a to an output conductor lug 15 for the anode (Applicant's specification at P0029/FIGURES 1A-B). An output conductor lug for the cathode is fitted to the metallic housing cup 16 by means of a contact weld 17a (Applicant's specification at P0030/FIGURES 1A-B).

In view of the above, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to weld the specific metallic supporting strip to one pin of Souliac et al as taught by the AAPA as the AAPA teaches that such a welding joint and contact

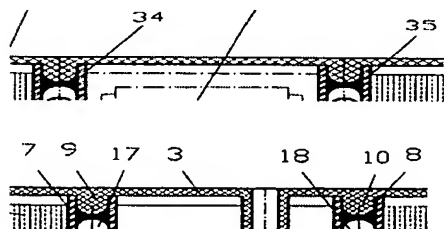
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is already in widespread use, that is, it is well known in the art to weld two components together so as to enhance mechanical stability and structural integrity in a battery while maintaining a satisfactory degree of electrical conductivity between the components. *In this instance, the AAPA is being applied hereinabove to show that the general concept of welding two components (i.e. the metallic supporting strip and at least one pin) of a battery is a concept and/or an application already well known in the battery art. Therefore, such a limitation is unable to properly define a novel feature in view of this teaching.*

11. Claim 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Souliac et al 6399237 in view of Applicant's Admitted Prior Art (hereinafter referred to as '*the AAPA*'), and further in view of the EP 1100138 (heretofore '*the EP*'138').

Souliac et al and the AAPA are applied, argued, and/or incorporated herein for the reasons discussed above. However, the preceding prior art does not expressly disclose the pin directly engaging a wall of the housing.

The EP'138 disclose a battery (TITLE) including a housing 3,4,5 and pins 13, 14 or 32, 33 (ABSTRACT). As shown in at least the enlarged portion of **Figure 5a**, pins 34, 35 (*as interpreted by the examiner*) engage a wall of the battery housing. The same is also true for pin 7 (*as interpreted by the examiner*) in **Figure 1** (enlarged portion thereof).



In view of the above, it would have been obvious to a person possessing a level of ordinary skill in the art at the time the invention was made to directly engage the pin to a wall of the housing of the Souliac et al-the AAPA as taught by the EP'138 as the EP'138 discloses that such engaging arrangement enhances the battery fixing support of internal elements. Thus, it does improve mechanical stability of the battery assembly.

Response to Arguments

12. Applicant's arguments with respect to claims 1 and 21 have been considered but are moot in view of the new ground(s) of rejection. See item 7 and 11 supra.

13. Applicant's arguments filed 10/19/06 have been thoroughly considered but they are not persuasive.

14. Applicant has argued that that the “*features of the pin, ...is substantially different from the connecting part 29*”, because applicant’s “*pin is simultaneously a supporting element for the wound electrode element and is held robustly or directly engages a wall of the battery’s housing*”, and therefore, the claim 1 is not unpatentable over the cited references. In reply, the examiner strenuously asserts that the claimed pin lacks structural features or characteristics fully distinguishing from the prior art of record. For instance, connection part 29 is welded to the blades 24 which (COL 6, lines 16-22) and blades 24 are connected to the negative electrode (COL 4, lines 5-10). Thus, connection part 29, serving as applicant’s pin as interpreted by the examiner, indirectly provides mechanical support to the wound electrode assembly and indirectly (electrically) contact the wound electrode assembly through blades 24. Thus, the connection part 29 of the prior art does provide the necessary functional and structural relationship to satisfy the

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claimed requirement. As to the having the pin directly engaging a wall of the battery's housing, independent claim 1 is wholly silent about such a limitation, therefore, it is not a primary feature of the main invention at hand. Nevertheless, a newly discovered reference does disclose, teach or illustrate such inventive concept.

15. Further to the above argument, applicant has expressed that *"the battery as defined by amended claim 1 differs from the battery of Souliac in the following aspects: a) the capacity of less than 1 Ah or less; b) inside the housing a pin to contact the electrode element is arranged; c) the electrode element is wound around the pin; d); the supporting strip of the electrode element is welded directly to the pin"*. Aspects b) and d) have been fully addressed and discussed in the immediately preceding paragraph (See item 14).

As to aspect c), reference numeral 19 is a support (COL 3, lines 60-63) wherein the cell is assembled by winding the alternating electrodes 5, 17 and separator around the support 19 (COL 6, lines 16-23). Blades 24 are welded to the connection part 29 (COL 6, lines 18-21). Now, it is imperative to visualize that the whole connection part 29 is smaller than the entire wound electrode assembly; therefore, the outer-most section of the wound electrode assembly is indirectly wound around the connection part 29. On the other hand, central part of the connection part 29 (i.e. the projecting part situated substantially along the X axis, see Figure 1) still satisfies the requirement of having the wound electrode assembly around it as Souliac et al disclose that *"cell 1 includes an electrochemical stack 9 including at least one alternation of positive electrode 5, negative electrode 17, and separator, generally wound in a spiral about an axis X on a central support 19 inserted into the can 7"* (Souliac et al, Col 3, lines 58-63). Thus, since the central part of the connection part 29 is also inserted in the can 7, it should be noted that the

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electrode-separator assembly of Souliac et al is also indirectly wound around either the entire connecting part 29 or just the central part thereof. Nowhere does independent claim 1 recite a direct contact between the pin and the wound electrode element or one wound electrode element being directly wound around and directly supported by said pin.

As far as aspect a), applicant's arguments that "*the capacity of less than 1 Ah or less*" makes the claim patentable over Souliac et al's disclosed capacity greater than 10 Ah is not sufficient to overcome the ground of rejection. Note first that Souliac et al's disclosed capacity greater than 10 Ah fully encompasses at least 1 Ah or fractions thereof. Thus, if applicant is intending to allege that only one (1) unit of electricity equal to the quantity carried past any point of a circuit in one hour by a steady current of one ampere is not covered by ten (10) unit of electricity of Souliac et al, then it is equivalent to say that 10 units of anything does not comprise only one (1) unit (or fractions) of said anything. Simply put, it is equivalent to say that 10 units of orange/apple do not include one (1) unit of orange/apple. From a practical point of view, applicant's allegation may be true, but from a mathematical perspective, and by definition of Real or Natural numbers, such allegation is far from being accurate. Problem here also lies in the definition of energy capacity in the context of ampere-hour (Ah) which is a unit quantity of electricity equal to the quantity carried past any point of a circuit in one hour by a steady current of one ampere. Even though such energy capacity is expressed as a magnitude for purposes of measurability, such an energy capacity is measure relative to a steady current of one ampere passing any point in one hour. That is to say, if ten (10) units of electricity pass any given point, then, necessarily, one (1) (or a fraction of it) thereof also passes through that point. Therefore, it is reasonable to conclude that Souliac et al's disclosed capacity of at least 10 Ah does include the

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claimed energy capacity of 1 Ah. Not yet convinced? A textbook on Theory of Numbers from any distinguished mathematicians may further illustrate what the examiner is expressing. In addition to that, from a chemical perspective, absent any electrochemically active composition in the present claims so as to sufficiently characterize applicant's energy capacity of 1 Ah or relate the battery's energy capacity to the electrochemical activity thereof, it is further contended that the electrochemical active materials of the prior art are capable of further delivering the energy capacity required by the applicant. Not yet convinced? From a dimensionally physical perspective, note that Souliac et al is concerned with "*compact storage cells*" (Souliac et al, Col 1, lines 25-27). Compactability is a major challenge for Souliac et al, as such, energy capacity of their battery must be also. In that event, applicant has failed to provide any objective evidence whatsoever to demonstrate why applicant's specific capacity is critical or provides superior results. If there is no such evidence, and applicant relies heavily on the intended use of the battery (battery application), then it is noted that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

16. In response to applicant's argument that "*features b-d contribute to a compact buildup of the small capacity battery*", the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985)

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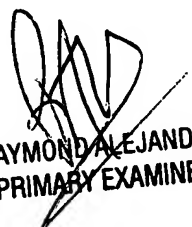
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Raymond Alejandro whose telephone number is (571) 272-1282. The examiner can normally be reached on Monday-Thursday (8:00 am - 6:30 pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick J. Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Raymond Alejandro
Primary Examiner
Art Unit 1745


RAYMOND ALEJANDRO
PRIMARY EXAMINER